

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

SEP 09 2004

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 3575/4046	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. PCT/SE 2003/000311	International filing date ( <i>day/month/year</i> ) 26.02.2003	Priority date ( <i>day/month/year</i> ) 12.03.2002
International Patent Classification (IPC) or national classification and IPC B24B 7/18		
Applicant HTC SWEDEN AB et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 7 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
  - a. ☐ (*sent to the applicant and to the International Bureau*) a total of \_\_\_\_\_ sheets, as follows:
 

☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - b. ☐ (*sent to the International Bureau only*) a total of \_\_\_\_\_ (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:
- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application   |

Date of submission of the demand  07.10.2003	Date of completion of this report  14.06.2004
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer  Anders Brinkman/MP Telephone No. +46 8 782 25 00

Form PCT/IPEA/409 (cover sheet) (January 2004)

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**Box No. I Basis of the report**

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☒ This report is based on a translation from the original language into the following language English, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))  
☒ publication of the international application (under Rule 12.4)  
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ the international application as originally filed/furnished

☐ the description:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the claims:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the drawings:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	<u>1</u>	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	<u>1</u>	NO
Industrial applicability (IA)	Claims	<u>1</u>	YES
	Claims		NO

**2. Citations and explanations (Rule 70.7)****Most relevant documents cited in the International Search Report**

D1: US 6238277 B1  
D2: US 3837028 A  
D3: US 1069803 A  
D4\*: SE 0845326 T3

\* This document, which is a translation of the European patent 0845326, was sent to the applicant together with a second written opinion because of the applicant's response to the first written opinion (see PCT Article 33(6)). The applicant's response was focused on the feature "the grinding disks are four in number" and the technical effect (to give the grinding machine ability to move along a straight line so it does not drift heavily sideways) of this feature. This technical effect is not obvious from the first filed disclosure of the invention, but appears derivable from page 1, line 29 which reads "The operator is normally not required to continuously steer the machine...".

**Explanation**

The claimed invention relates to an arrangement in a mobile machine for grinding floor surfaces. The object of the invention is to release the operator of the grinding machine from the actual propulsion of the machine. The description further mentions that the operator is normally not required to continuously steer the machine.

.../...

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: V

D4 and D1 are considered as equally relevant, but D4 is clearer regarding the arguments the applicant has put forward. D4 is therefore considered to show the closest prior art. D4 (see page 2, line 34 - page 3, line 3; page 3, lines 13-15; page 5, lines 20-25; claim 1 and figs. 1-5) discloses a device for grinding or polishing floors or surfaces. The known device comprises a motor 2 arranged on a downwardly open housing 3; a grinding disc 4 that is mounted in the opening of the housing and rotatably driven by a motor shaft 15; and two wheels 3.1, 3.2 which make it easy to move the device. The grinding disc 4 (that corresponds to the "planet disk" in the application) has the form of a demountable plate 6 and in a preferred embodiment (see page 3, lines 13 and 14) the plate supports four smaller grinding discs which are rotatable in relation to the plate 6.

Page 5, lines 20-25 in D4 states that when the device is operated the grinding or polishing disc is supported by the floor surface and is made to rotate by the motor. The device is steered by a grab element (not shown) and moved over the floor or surface that is to be treated.

It is thus fully clear from these lines that the device is moved forward while it is grinding a floor or surface.

The arrangement defined in claim 1 of the application differs from the device in D4 through what is mentioned in the characterizing part, with the exception of the feature "the grinding disks are four in number". Thus, claim 1 differs from D4 by the following: "the arrangement comprises a drive motor (4a, 5a) mechanically connected to each wheel (4, 5) and a control unit (6) influencing the direction of rotation and the rotational speed of the drive motors (4a, 5a), the control unit being operatively connected via a radio communications unit to an operating device (7), designed for manual actuation by an operator (8) for remote control of the grinding machine (1)".

These differences appear to have the technical effect that the operator of the grinding machine is released from the actual propulsion of the grinding machine.

.../...

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.  
Continuation of: V

Considering D4 the person skilled in the art is thus faced with the problem of achieving an arrangement with the technical effect just mentioned.

D2 discloses a floor treating machine which comprises a body 11; a pair of rotatable floor-treating brushes 12; a pair of driving wheels 14, each having a drive unit 15; a control unit 17 mounted on the body 11; and a remote control switching box 19, carried by an operator and connected to the control unit 17 by a flexible cable 18. When the machine is operated the operator carries the remote control and because of the flexible cable 18 the operator is able to walk ahead of, on one side of or behind the machine. It is a well known technique to control different devices by the use of wireless radio communication. The person skilled in the art would therefore consider communication by wire and wireless communication as equivalent and obvious solutions. The skilled person would thus easily realise that wireless communication can be used in D2 instead of communication by cable.

Both D4 and D2 concern machines for treating floor surfaces and thus belong to the same general technical field, or at least similar technical fields. The person skilled in the art, trying to find a solution to the problem defined above, would search for a solution among machines for grinding floor surfaces as well as among machines that treat floor surfaces in another way where the operator also might need to be released from the machine. When the person skilled in the art becomes aware of the remote controlled machine in D2 it is obvious to that person that the machine in D4 can be remotely controlled in the same way. Considering the arguments in this paragraph and the arguments in connection to D4 and D2 it is considered that the person skilled in the art would arrive at the claimed invention.

It is also considered obvious to the person skilled in the art to arrive at the claimed invention by combining D1-D3, whereby the machine in D1 is provided with the remote control known from D2. D3 (see figs. 2 and 3, page 1, lines 73-81 and page 2, lines 40-45) shows a grinding machine with four grinding discs and a clear indication to the person skilled in the art that this is an appropriate number of discs. In D1 (column 8, lines 25-29) it is stated that any number of grinding discs may be used.

.../...

**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of: V

The arrangement according to claim 1 of the application is novel and industrially applicable but considered to lack inventive step.

**Box No. VIII Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 1 involves the feature "the grinding disks are four in number". In response to the written opinion the applicant has argued that the technical effect of this feature is that the grinding machine moves in a straight line without drifting heavily sideways. It is not clear how the mere fact that the grinding discs are four in number can achieve this effect (cfr. D3, page 1, lines 73-79).

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